

REMARKS

In the Action, claims 1-3 are rejected and claims 4-8 are withdrawn from consideration as being directed to a non-elected invention. In response, claims 1-8 are cancelled, and new claims 9-14 are added. The pending claims in this application are claims 9-14, with claim 9 being the sole independent claim. Claims 9-14 read on the elected invention.

Independent claim 9 is directed to a microcapsule composition comprising a plurality of microcapsules and an aqueous medium. Claim 9 further recites the microcapsules having a shell and a dispersion of a solvent and electrophoretic fine particles encapsulated within the shell of the microcapsules. The plurality of microcapsules are present in an amount of 30 to 80% by weight in the microcapsule composition and the plurality of microcapsules having a volume-average particle diameter of 30 to 150 μm and not less than 80% by volume of the plurality of microcapsules being present within a particle diameter of $\pm 40\%$ of the maximum peak particle diameter around the maximum peak particle diameter. These features are supported by claims 1 and 2 as originally filed.

Claim 10 depends from claim 9 and recites the total content of the microcapsules in the aqueous medium being not less than 90% by weight. This feature is supported by claim 3 as originally filed. Claim 11 depends from claim 9 and recites the thickness of the shell being in the range of 0.1 to 5 μm . Support for claim 11 is found on page 23, lines 7-11. Claims 12-13 depend from claim 9 and recite the microcapsules being produced without a drying step as in original claim 1 and the microcapsules being produced by a wet classification step as disclosed on page 26, line 16, to page 27, line 1 of the specification. Claim 14 recites the microcapsule composition having a microcapsule content in an amount effective to produce

an electrophoretic display as in original claim 1. Accordingly, the claims are supported by the specification and claims as originally filed.

Page 2 of the Action indicates that the Information Disclose Statement fails to comply with the rules and has not considered the cited patents. Contrary to the suggestion in the Action, an English Abstract of each of the Japanese patents was provided. Accordingly, the submission of the English Abstract complies with the rules for an Information Disclosure Statement. Applicants are not require to submit a complete English translation of the entire Japanese patent when an English abstract is available. Accordingly, the Examiner is required to consider the English abstract. Applicants request proper consideration of the English abstracts and that the English abstracts and the Japanese patents be made of record.

The Rejections

Claims 1 and 3 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,017,584 to Albert et al. Claim 2 is rejected under 35 U.S.C. § 103(a) as being obvious over Albert et al. The pending claims are not anticipated by or obvious over Albert et al. since Albert et al. does not disclose a microcapsule composition having the claimed microcapsule or the volume-average particle diameter as claimed. Claim 9 includes the subject matter of original claim 2. Accordingly, claim 9 is not anticipated by Albert et al.

Albert et al. is relevant to the extent that an electrophoretic display and microcapsules are disclosed. Contrary to the suggestion in the Action, Albert et al. does not disclose a microcapsule composition having a microcapsule content of 30 to 80% by weight. Albert et al. does not specifically disclose the microcapsule content of the composition. The Action states that Albert et al. “exemplifies” a microcapsule content of 71.4 wt% but fails to identify where Albert et al. discloses this feature. Albert et al. does not disclose a microcapsule

content as suggested in the Action. Applicants respectfully request where Albert et al. discloses either expressly or inherently the microcapsule content of 71.4 wt%.

Furthermore, Albert et al. fails to disclose the claimed particle diameter distribution as recited in claim 9. The Action contends that it would have been obvious to produce the microcapsule composition of Albert et al. with the claimed particle diameter distribution. However, this conclusion is based on hindsight and is not supported by the disclosure of Albert et al. As discussed in the specification, the particle size distribution of the claimed microcapsule composition is important to the properties of the present invention. Furthermore, Albert et al. provides no discussion of the average particle diameter distribution and provides no motivation or incentive to one of ordinary skill in the art to provide the claimed volume-average particle diameter. Furthermore, Albert et al. provides no expectation of success or improved properties based on the claimed volume-average particle diameter.

Albert et al. also fails to disclose a method capable of obtaining a volume-average particle diameter within the claimed range. As disclosed in the specification, the classification step for obtaining the microcapsules is important in obtaining the claimed volume-average particle diameter distribution. Specifically, as discussed on page 26, line 16, to page 27, line 1, of the specification, a wet classification step is used to obtain the volume-average particle diameter distribution. Dry classification steps as commonly used in the prior processes result in broken or damaged microcapsules and are not capable of producing the claimed volume-average particle diameter of the present invention.

Albert et al. fails to disclose or suggest the classification method used to obtain the microcapsules. Furthermore, Albert et al. provides no suggestion of using a wet classification step as in the present invention. Therefore, Albert et al. provides no suggestion of a method

for obtaining the claimed particle diameter distribution. Thus, the claimed volume-average particle diameter distribution cannot be obtained from the teachings of Albert et al. Albert et al. provides no expectation of improved properties based on the use of a wet classification step.

The Action contends that the recitation in original claim 1 of the microcapsules being prepared without a drying step is a process limitation that carries no patentable weight in the composition claim. Applicants submit that the recitation is not simply a process limitation as suggested, but rather is a feature that defines the properties and characteristics of the microcapsules. Specifically, this feature defines the method for obtaining volume-average particle diameter as claimed that cannot be obtained by the process of Albert et al.

The differences between the conventional dry classification step for preparing the microcapsules and a wet classification step according to the present invention are demonstrated in the Examples and Comparative Examples of the specification. Specifically, Comparative Example 1 on page 42, last line, to page 43, line 11, of the specification does not use the wet classification step, and thus, corresponds substantially to the process disclosed by Albert et al. Example 1 on page 37 of the specification corresponds to the present invention which uses the wet classification step. Page 39 of the specification specifically discloses the microcapsule dispersion being subjected to a wet classification step and concentrating the dispersion to obtain the microcapsule composition having a volume-average particle diameter of 74.6 μm , and the maximum particle diameter of 77.2 μm . As shown in Table 1 on page 46 of the specification, not less than 80% by volume of the microcapsules contained in the microcapsule composition of Example 1 have a particle diameter range of $\pm 40\%$ of the maximum peak particle diameter as recited in claim 9, while the microcapsules of Comparative Example 1 have a value outside the claimed range. Thus,

the Examples demonstrate that the conventional processes such as the process disclosed in Albert et al. do not obtain the claimed particle size distribution and properties of the claimed microcapsule composition.

The process according to Comparative Example 1 and Albert et al. produce aggregates of the microcapsules and result in damage or defective microcapsules being produced. In contrast, the wet classification step of the invention as demonstrated in Example 1 provide a particle diameter distribution within the claimed range. The microcapsules are densely packed without spaces so that few aggregates and few damaged or defective microcapsules are produced. This results in the excellent physical properties of the claimed microcapsule composition that cannot be obtained according to Albert et al. and are unexpected from the teachings of Albert et al.

In view of the above comments, claim 9 is not anticipated by or obvious over Albert et al. Claims 10-14 are also allowable as depending from an allowable base claim and for reciting additional features of the invention that are not disclosed or suggested in Albert et al. For example, Albert et al. does not disclose the total content of the microcapsules of not less than 90 wt% as in claim 10 or the thickness of the microcapsule shell being in the range of 0.1 to 5 μm as in claim 11, in combination with the features of claim 9. Albert et al. further fails to disclose the microcapsule composition where the microcapsules are produced by a process without drying the microcapsules as in claim 12, or being produced by a wet classification step as in claim 13. For the reasons discussed above, claims 12 and 13 are not simply process limitations, but instead define the features of the invention that produce the claimed volume average particle diameter and further distinguish the composition of Albert et al. Albert et al. also fails to disclose a microcapsule composition where the microcapsules are present in an amount effective to produce an electrophoretic display as in claim 14.

In view of these amendments and the following comments, reconsideration and allowance are requested.

Respectfully submitted,



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